

IN THE CLAIMS:

1-35. Cancelled

36. (Currently amended) A method of producing starch comprising stably transforming a potato plant with at least ~~two~~ a first and a second antisense heterologous nucleic acid ~~sequences~~ sequence, wherein ~~each~~ the first nucleic acid sequence encodes a potato ~~different~~ starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme, and extracting starch from the plant, wherein the starch has a viscosity onset temperature, as judged by viscoamylograph of a 10% w/w aqueous suspension at atmospheric pressure wherein the temperature is reduced by at least about 12° C compared to starch extracted from equivalent, unmodified plants.

37. (Currently amended) A method of producing starch comprising stably transforming a potato plant with at least ~~two~~ a first and a second antisense heterologous nucleic acid ~~sequences~~ sequence, wherein ~~each~~ the first nucleic acid sequence encodes a potato ~~different~~ starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme, and extracting starch from the plant, wherein the starch has an endotherm onset temperature, as determined by differential scanning calorimetry, which is reduced by at least about 15° C compared to starch extracted from equivalent, unmodified plants.

38. (Currently amended) A method of producing starch comprising stably transforming a potato plant with at least ~~two~~ a first and a second antisense heterologous nucleic acid ~~sequences~~ sequence, wherein ~~each~~ the first nucleic acid sequence encodes a potato ~~different~~ starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme, and extracting starch from the plant, wherein the starch has an endotherm onset temperature, as determined by differential scanning calorimetry, which is reduced by at least about 17° C compared to starch extracted from equivalent, unmodified plants.

39. (Currently amended) A method of producing starch comprising stably transforming a potato plant with at least ~~two~~ a first and a second antisense heterologous nucleic acid ~~sequences~~ sequence, wherein each ~~the first~~ nucleic acid sequence encodes a potato ~~different~~ starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme, and extracting starch from the plant, wherein the starch has an increased amount of starch molecules with a degree of polymerisation of 6-12, as judged by analysis of debranched starch by high performance anion exchange chromatography (HPAEC), compared to starch extracted from equivalent, unmodified plants.

40. (Currently amended) A method of producing starch comprising stably transforming a potato plant with at least ~~two~~ a first and a second antisense heterologous nucleic acid ~~sequences~~ sequence, wherein each ~~the first~~ nucleic acid sequence encodes a potato ~~different~~ starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme, and extracting starch from the plant, wherein the starch has a decreased amount of starch molecules with a degree of polymerisation of 15-24, as judged by analysis of debranched starch by HPAEC column, compared to starch extracted from equivalent, unmodified plants.

41. (Currently amended) A method of producing starch comprising stably transforming a potato plant with at least ~~two~~ a first and a second antisense heterologous nucleic acid ~~sequences~~ sequence, wherein each ~~the first~~ nucleic acid sequence encodes a potato starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme, wherein the starch has about a two fold increase in starch molecules with a degree of polymerization of 6-7 and a depletion of starch molecules with a degree of polymerization between 15-20, as judged by analysis of debranched starch by HPAEC, compared to starch extracted from equivalent, unmodified plants.

42. (Currently amended) A method of producing starch comprising stably transforming a potato plant with at least ~~two~~ a first and a second antisense heterologous nucleic acid ~~sequences~~ sequence, wherein each ~~the first~~ nucleic acid sequence encodes a potato starch

synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme, and wherein the starch has an endotherm onset temperature, as judged by differential scanning calorimetry, of less than about 50° C, compared to starch extracted from equivalent, unmodified plants.

43. (Previously presented) The method of claim 42, wherein the starch extracted from the transformed plant has an endotherm onset temperature of less than about 44° C.

44. (Withdrawn - currently amended) The starch according to any one of claims 36-43 ~~[[,]] wherein the two heterologous nucleic acid sequences encode potato starch synthase II (SSII) enzyme and potato starch synthase III (SSIII) enzyme.~~

45. (Currently amended) A plant comprising at least ~~two~~ a first and a second heterologous nucleic acid ~~sequences~~ antisense sequence, wherein the first nucleic acid sequence encodes a potato starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme ~~and~~ each nucleic acid sequence is operably linked to a promoter ~~and encodes a different starch synthase enzyme~~, wherein starch extracted from the plant has a viscosity onset temperature, as judged by viscoamylograph of a 10% w/w aqueous suspension at atmospheric pressure wherein the temperature is reduced by at least about 12° C compared to starch extracted from equivalent, unmodified plants.

46. (Currently amended) A plant comprising at least ~~two~~ a first and a second heterologous nucleic acid ~~sequences~~ antisense sequence, wherein the first nucleic acid sequence encodes a potato starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme ~~and~~ each nucleic acid sequence is operably linked to a promoter ~~and encodes a different starch synthase enzyme~~, wherein starch extracted from the plant has an endotherm onset temperature, as determined by differential scanning calorimetry, which is reduced by at least about 15° C compared to starch extracted from equivalent, unmodified plants.

47. (Currently amended) A plant comprising at least ~~two~~ a first and a second heterologous nucleic acid sequences antisense sequence, wherein the first nucleic acid sequence encodes a potato starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme and each nucleic acid sequence is operably linked to a promoter ~~and encodes a different starch synthase enzyme~~, wherein starch extracted from the plant has an endotherm onset temperature, as determined by differential scanning calorimetry, which is reduced by at least about 17° C compared to starch extracted from equivalent, unmodified plants.

48. (Currently amended) A plant comprising at least ~~two~~ a first and a second heterologous nucleic acid sequences antisense sequence, wherein the first nucleic acid sequence encodes a potato starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme and each nucleic acid sequence is operably linked to a promoter ~~and encodes a different starch synthase enzyme~~, wherein starch extracted from the plant has an increased amount of starch molecules with a degree of polymerisation of 6-12, as judged by analysis of debranched starch by high performance anion exchange chromatography (HPAEC), compared to starch extracted from equivalent, unmodified plants.

49. (Currently amended) A plant comprising at least ~~two~~ a first and a second heterologous nucleic acid sequences antisense sequence, wherein the first nucleic acid sequence encodes a potato starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme and each nucleic acid sequence is operably linked to a promoter ~~and encodes a different starch synthase enzyme~~, wherein starch extracted from the plant has a decreased amount of starch molecules with a degree of polymerisation of 15-24, as judged by analysis of debranched starch by HPAEC column, compared to starch extracted from equivalent, unmodified plants.

50. (Currently amended) A plant comprising at least ~~two~~ a first and a second heterologous nucleic acid sequences antisense sequence, wherein the first nucleic acid sequence encodes a potato starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes

a potato starch synthase III (SSIII) enzyme and each nucleic acid sequence is operably linked to a promoter ~~and encodes a starch synthase enzyme~~, wherein starch extracted from the plant has about a two fold increase in starch molecules with a degree of polymerization of 6-7 and a depletion of starch molecules with a degree of polymerization between 15-20, as judged by analysis of debranched starch by HPAEC, compared to starch extracted from equivalent, unmodified plants.

51. (Currently amended) A plant comprising at least ~~two~~ a first and a second heterologous nucleic acid sequences antisense sequence, wherein the first nucleic acid sequence encodes a potato starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme and each nucleic acid sequence is operably linked to a promoter ~~and encodes a starch synthase enzyme~~, wherein starch extracted from the transformed plant has an endotherm onset temperature, as judged by differential scanning calorimetry, of less than about 50° C, compared to starch extracted from equivalent, unmodified plants.

52. (Currently amended) A plant comprising at least ~~two~~ a first and a second heterologous nucleic acid sequences antisense sequence, wherein the first nucleic acid sequence encodes a potato starch synthase II (SSII) enzyme and the second nucleic acid sequence encodes a potato starch synthase III (SSIII) enzyme and each nucleic acid sequence is operably linked to a promoter ~~and encodes a starch synthase enzyme~~, wherein starch extracted from the transformed plant has an endotherm onset temperature, as judged by differential scanning calorimetry, of less than about 44° C, compared to starch extracted from equivalent, unmodified plants.

53. (Currently amended) The plant according to any one of claims 44-52 [[,]] ~~wherein the two heterologous nucleic acid sequences encode potato starch synthase II (SSII) enzyme and potato starch synthase III (SSIII) enzyme.~~